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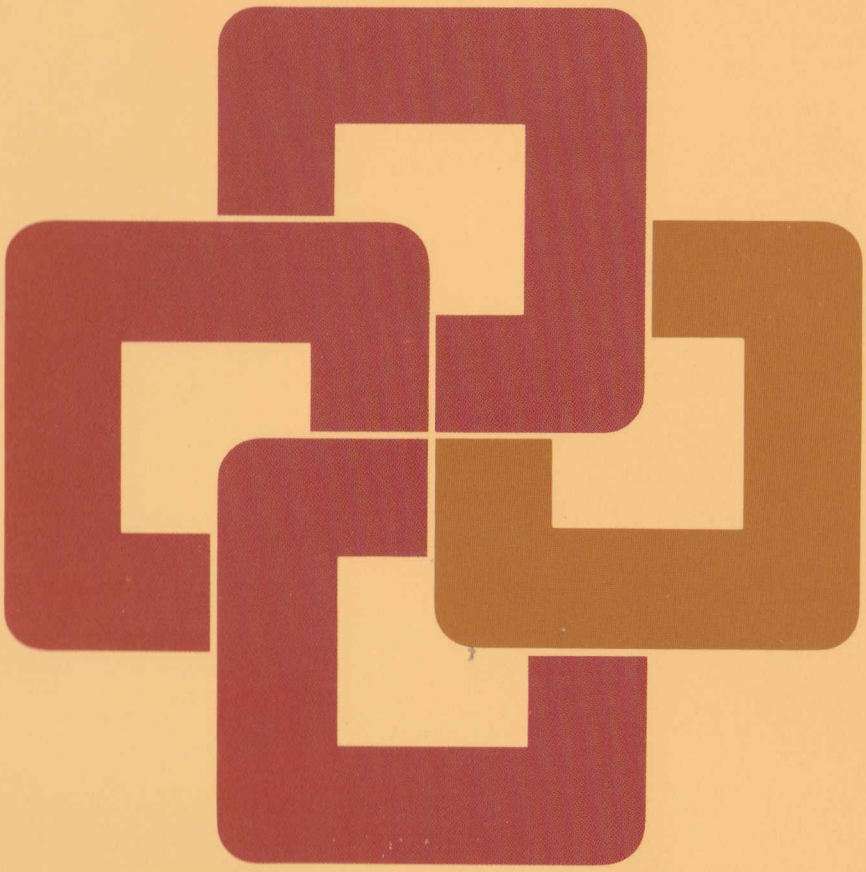
• Inventory • Price lists • Directories • Receivables
• Sales records • Directories • Personnel and many more.



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C64 FILE

pfs:® report

user's manual

for the Commodore 64 Computer

Program Author: Don Williams
Manual Author: Briana Burns

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about this manual

PFS:REPORT is a program that prepares and prints tabular reports of your own design, using the information you have stored with PFS:FILE.

The manual assumes that you already know how to create files using PFS:FILE. If you have not used FILE before, please read the FILE manual and work through the examples before continuing further. The best way to learn both FILE and REPORT is to read the manuals and follow along with the examples.

This manual is organized in the same way as the FILE manual, with step-by-step instructions on how to get started and how to use each REPORT function. Its chapters show many examples of reports that you can create using REPORT. An example file for you to work with is included on the program disk. It illustrates how the functions work and allows you to experience REPORT as you are reading about it. Text that you are to type is shown in boldface type.

In the appendices you will find explanations of error conditions and a listing of the sample file used thoughout the manual. The quick reference guide at the back of this manual summarizes the functions REPORT performs. There is also an index.

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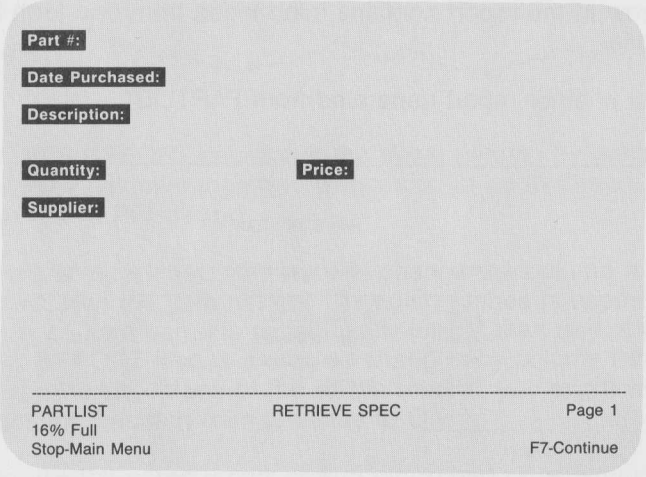
1: what is pfs:report?

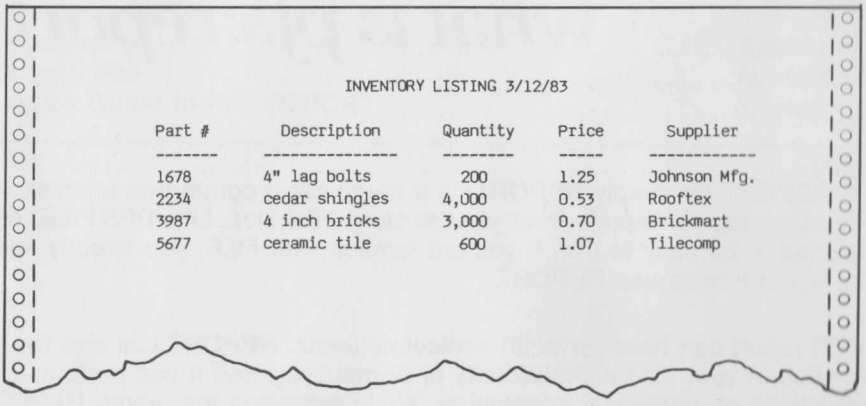
PFS:REPORT (or simply REPORT) is a computer program that enables you to produce tabular reports from your existing PFS files. Like PFS:FILE, it is designed to be easy to use. If you are familiar with FILE, you already know a lot about how to use REPORT.

A PFS report can have up to 20 vertical columns. REPORT can sort the information in your files alphabetically or numerically, and it can perform calculations on numerical information. While preparing the report, REPORT plans the layout to take best advantage of the space available.

Suppose you have the purchase history of all the items in your inventory stored in a PFS file named PARTLIST. The blank form looks like this:



Here is an example of a report that can be produced from the PARTLIST file, listing all items purchased in the last month, sorted by part number:

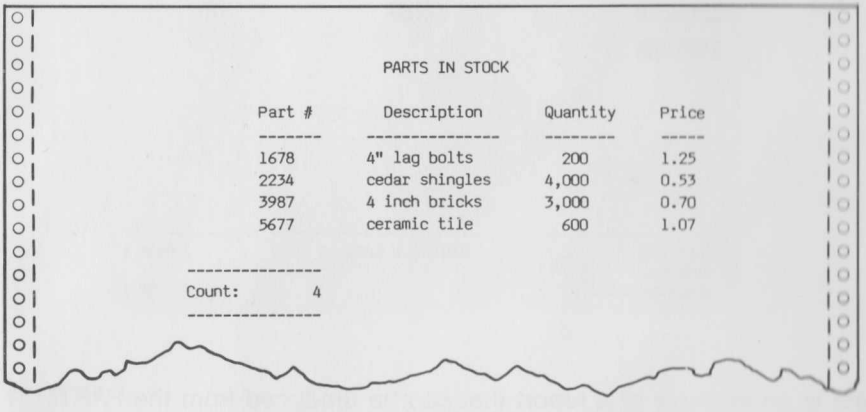


INVENTORY LISTING 3/12/83

Part #	Description	Quantity	Price	Supplier
1678	4" lag bolts	200	1.25	Johnson Mfg.
2234	cedar shingles	4,000	0.53	Rooftex
3987	4 inch bricks	3,000	0.70	Brickmart
5677	ceramic tile	600	1.07	Tilecomp

Notice the title line. The title you give your report will appear at the top of each page. Notice also that the name at the top of each column of the report corresponds to an item name from the PARTLIST form. Each horizontal row in the report contains information from one form in the PARTLIST file.

Let's look at another report generated from PARTLIST:



PARTS IN STOCK

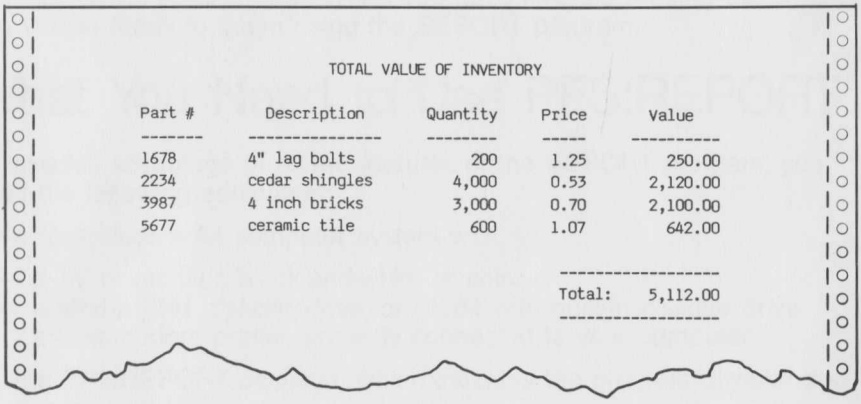
Part #	Description	Quantity	Price
1678	4" lag bolts	200	1.25
2234	cedar shingles	4,000	0.53
3987	4 inch bricks	3,000	0.70
5677	ceramic tile	600	1.07

Count: 4

This is a fairly simple report. Part # again appears as the first column. REPORT has arranged the rows in ascending order (smallest to largest) by part number and has also counted the entries in the first column to give you the number of different parts. When REPORT sorts the rows of a report alphabetically or numerically, it does so according to the information

in the first two columns. If the first column is the same for two or more rows, REPORT sorts those rows by the information in column two. REPORT can total, average, or count the number of items in a column. It can also give subtotals, subaverages, and subcounts.

The following report contains a column that does not correspond to an item name in the PARTLIST form:



TOTAL VALUE OF INVENTORY

Part #	Description	Quantity	Price	Value
1678	4" lag bolts	200	1.25	250.00
2234	cedar shingles	4,000	0.53	2,120.00
3987	4 inch bricks	3,000	0.70	2,100.00
5677	ceramic tile	600	1.07	642.00
			Total:	5,112.00

In this report, PFS:REPORT calculated the Value column by multiplying the Price and Quantity columns together. You can have up to three such *derived* columns in a PFS report.

When designing a report, you may want to change the column names to something other than the item names. Changing names is especially desirable when an item name is substantially longer than any of the entries in the column. REPORT makes it easy to change any column heading in the report. For example, in any of the above reports, you might want to change the column heading from Quantity to Qty.

If you want to use the same report design more than once, you can store a design for future use. You can store up to eight report designs for each PFS file. For instance, you could store the three report designs shown above and use them to print periodic, up-to-date reports on your inventory.

The remaining chapters of this manual give you detailed explanations and examples of how to prepare reports, from simple ones to more complex ones with column calculations and derived columns. You also learn how to save report designs for repeated use, and set the headings you want to appear on your reports.

2: getting started

This chapter explains how to get started using REPORT. It describes the equipment you need, how to start the program, use the Main Menu, and use REPORT's special keys. When you have finished reading the chapter, you will be ready to begin using the REPORT program.

What You Need to Use PFS:REPORT

To take full advantage of all the features of the REPORT program, you need the following equipment:

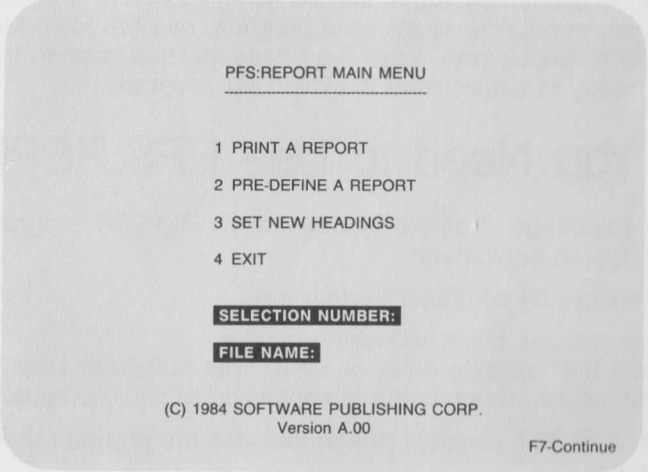
- a Commodore 64 computer system with
  - a TV or monitor, black-and-white or color
  - a Model 1541 diskette drive, or SX-64 with built-in diskette drive
  - a Commodore printer, properly connected to your computer
- the PFS:REPORT package, which includes the program diskette and this manual
- your PFS files

Starting PFS:REPORT

To start the REPORT program, first turn on the computer. When the screen says "READY", insert the REPORT program diskette into the drive and type **LOAD "REPORT",8,1**. Press the Return key. The red in-use light on the disk drive comes on and a few minutes later the REPORT Main Menu appears on the screen. After loading REPORT, remove the program diskette from the drive and put it back in its protective envelope.

The PFS:REPORT Main Menu

The PFS:REPORT Main Menu lists the four main functions of the REPORT program:



This menu appears when you first start REPORT, and whenever you press the Stop key. You select functions from the menu by filling in the following two items:

Selection Number: Enter the number corresponding to the function you want REPORT to perform and press F1 to move to the next item. If the next item is already filled in correctly, press F7 to begin the function.

File Name: Enter the name of the PFS file you are going to use. The name can be 10 characters long.

Warning: Do not remove the diskette containing your PFS file from the disk drive unless the REPORT Main Menu is displayed on the screen. Removing it at other times may damage the data in the file.

Keys Used by REPORT

Below are four special keys you use frequently when working with REPORT. The functions of the most commonly-used keys (F7 and Stop) appear at the bottom of the screen when appropriate as you use the program. Other keys are explained throughout the manual and all are summarized in *A Quick Guide to PFS:REPORT* at the back of this manual.

Key	Function
F7	**Continue.** Use F7 to begin or continue the specified function.
Stop	**Stop.** Use this key at any point while using REPORT to cancel the current operation and return to the Main Menu.
F1	**Tab.** Use this key to move forward to the next item.
F3	**Back Tab.** Use this key to move back to the previous item.

Exiting from REPORT

When you have completed your work with REPORT, return to the Main Menu by pressing Stop and enter **4** in the Selection Number item. Press F7, and REPORT returns you to the READY prompt.

3: printing a simple report

This chapter explains how to use the Print A Report function to prepare and print a report based on the data in your PFS:FILE data file. To print a report, you fill in three forms. The first lets you choose which forms from the file you want included in the report. The second lets you control the printing of your report, such as the title, page size, and so on. The third form lets you choose which items from the file will appear as columns in the report and the order in which they will appear.

A sample data file named STAFF is stored on the PFS:REPORT program diskette. To use this file, you must first use the BACKUP program to copy STAFF to a blank, formatted diskette. A copy of the BACKUP program is included on your REPORT program diskette, as well as on the FILE program diskette. If you are not familiar with use of the BACKUP program, read Appendix C, *Disk Utilities* in the PFS:FILE manual. If you accidentally lose or damage the STAFF file, you can re-create it using the instructions in Appendix B of this manual.

Selecting Print A Report

Let's use the STAFF file to produce a simple report that lists the names and addresses of all the people in the file. To begin, start the REPORT program according to the instructions in Chapter 2. The REPORT Main Menu appears on the screen. Remove the REPORT program diskette and insert the diskette with the STAFF file into the drive. The cursor is at the Selection Number item. Enter a **1** in the Selection Number item and press the F1 key to move the cursor to the File Name item. Type in **STAFF**. The screen should look like the screen on the next page:

```
PFS:REPORT MAIN MENU
--------------------

1 PRINT A REPORT
2 PRE-DEFINE A REPORT
3 SET NEW HEADINGS
4 EXIT

SELECTION NUMBER: 1
FILE NAME: STAFF

                                F7-Continue
```

Press F7 and the first of the three forms, called the *retrieve spec form*, appears:

```
Employee #:                 Hired:
Name:
Address:
City:
State:                      Zip:

Dept:                       Phone Ext:
Job Title:
Monthly Salary:

-------------------------------------------------------------------------------
STAFF                       RETRIEVE SPEC                          Page 1
2% Full
Stop-Main Menu                                          F7-Continue
```

Choosing the Forms Used in the Report

The first step when preparing a report is to indicate which forms from the file you want to include in the report. You choose the forms by filling in retrieve specifications next to the item names on the retrieve spec form.

If you want to include all the forms from the file, leave the form blank and press F7.

If you want to include only certain forms from the file, enter retrieve specifications exactly as you would for the SEARCH/UPDATE function in PFS:FILE. The types of retrieve specifications are summarized below. For a complete explanation, refer to Chapter 5 of the PFS:FILE manual.

Like PFS:FILE, REPORT can search for forms in any of five ways. In a *full item match*, REPORT searches for forms that exactly match the retrieve specifications. For example, *abc* finds *abc* only (uppercase or lowercase).

In a *partial item match*, REPORT looks for a particular word or phrase, ignoring other words or characters. In this case, you enter a ? to ignore a single character, or two dots (..) to ignore one or more characters. For example, *?and* finds any four-letter word ending in *and* (*band, land, hand,* etc.); while *abc..* finds any entry starting with *abc*. The specification .. finds any non-blank entry.

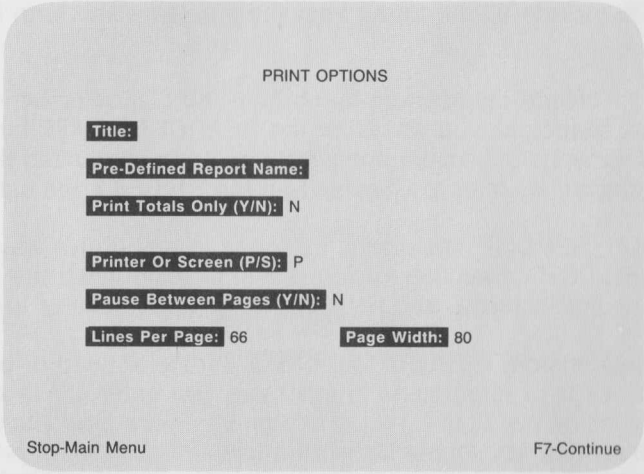
A *numeric item match* lets you search for all items greater than, less than, or equal to a given number. You use the symbols <, >, and = with the number. Thus, <10 finds any number less than 10, >99 finds any number greater than 99, and =33 finds the number 33.

With the *numeric range match*, you can search for all numbers within a certain range. You enter an equals sign, the lowest number in the range, two dots (..), and then the highest number. For example, =1..5 finds any number 1 through 5.

Finally, the *not match* allows you to reverse the intent of any of the above retrieve specifications. Precede the specification with a slash (/) character. For example, */A..* finds any entry not starting with *A*, */=25* finds any number not equal to 25, and */..* finds any blank entry.

If you make a mistake when filling in retrieve specifications, just backspace and retype the correct information. If the mistake is in a previous item, press F3 (Back Tab) to return to the item and retype it. If you want to erase all the entered specifications and start over, press the Clear key.

For our sample name and address report, leave the retrieve spec form blank so that all the STAFF employees are included in the report. When you press F7, the second form, the *print options form,* appears.



Choosing the Report Title and Other Print Options

The second step when preparing a report is to give your report a title and choose other printing options. You can print the report to a printer or to the screen. You can change lines per page and page width. You can print the report according to a previously defined report design (see Chapter 6).

The print options form initally shows common settings (called default values) for the print options. You will usually use these default values. Just give your report a title and press F7.

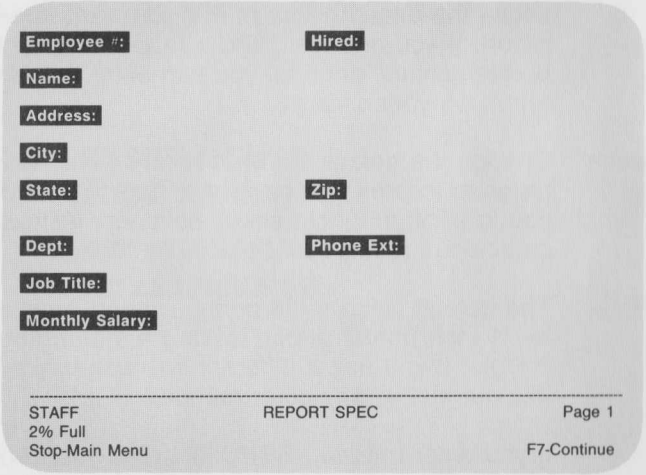
To change one of the print options, use F1 to move the cursor to the desired option and enter the new value. The different options are described below:

Title	If you want a title on your report, enter it here.
Pre-Defined Report Name	If you want to use a stored report design, enter the name here. REPORT will use your stored design so you don't have to fill out the third form. See Chapter 6 for instructions on storing a report design.
Print Totals Only	If you change the N to Y for this item, REPORT prints a summary report that lists only the results of calculations for the report, and not the individual rows.

Printer Or Screen	Leave the default value of P if you want to print your report. If you are designing a report and want to check it before actually printing, you can enter S to see the report on your screen.
Pause Between Pages	Change the default value of N to Y if you want the program to print one page at a time. This option allows you to print on single sheet stationery instead of continuous feed paper.
Lines Per Page	The default value of 66 prints a report on standard 8 1/2 by 11 inch printer paper, leaving a top and bottom margin. If you use a different size paper, you can change this number to any other number. If you enter 0 (zero), REPORT prints your report as one continuous page with no page breaks or page numbers.
Page Width	Enter the width of your paper (between 6 and 255 characters). The default value is 80, the width of standard 8 1/2 by 11 printer paper. Change the value to 40 if you want to see your report on a 40-column screen.

When you have made your desired changes to the print options, press F7 to continue. REPORT temporarily stores the changes you make to the print options. The next time you start the program, the default values will again be in effect.

For the STAFF example report, type the title **Name and Address Report**. Leave the rest of the options as they are and press F7. The third form, called the *report spec form,* appears, ready for you to specify the layout of your report.



Choosing and Organizing the Report Columns

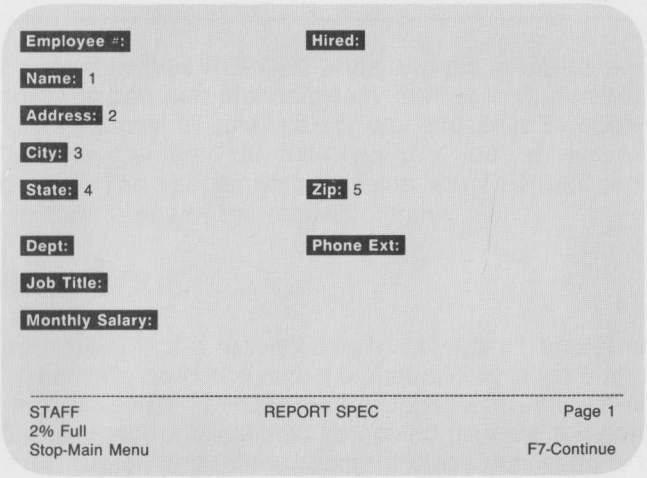
The last step before your report starts printing is to enter specifications that determine which items appear as columns in the report and in which order they appear. (You can also enter column calculation commands and define several special features of REPORT at this time. Column calculations and special reports are discussed in Chapters 4 and 5.)

Each report can have up to 20 columns. They are numbered from 1 to 20, starting with the lefthand column. To print an item as a column in the report, enter the desired column number next to the item name on the report spec form.

The report is sorted in alphabetical or numerical order based on the information in column 1. If the information in column 1 is the same for more than one row, the information is sorted on the information in column 2. Only columns 1 and 2 are sorted.

If you do not want your report sorted, number your first column as column 3. If your report is long or complex, eliminating the sort in this way can save you some time. However, it does limit your report to 18 columns (numbered 3 through 20).

For the name-and-address example, fill in the report specifications as shown below:



Press F7, and REPORT begins preparing the report. First, it selects the forms that match the retrieve specifications, displaying the message "Selecting Forms" while it does so. Next, if you specified columns 1 or 2 for the report, REPORT sorts the forms, displaying the message "Sorting". Finally, it prints the report, displaying the message "Printing Report" and, when finished, returns to the Main Menu. The printed name-and-address report looks like this:

Name and Address Report

Name	Address	City	State	Zip
Bennet, Liza	754 Granville Place	Ridgewood	CA	93132
Calvin, Curt	254 Greentree Lane	Woodville	CA	93137
Fawley, Susan	5634 Ridgewood Way	Woodville	CA	93137
Peters, Marvin	3224 Valley View Road	Ridgewood	CA	93132
Sanchez, Enrico	7831 Parkside Place	Ridgewood	CA	93132
Thomson, John	869 Valley View Road	Ridgewood	CA	93132
Woodhouse, Emma	425 Oakview Way	Ridgewood	CA	93132
Woolf, James	9732 Sunrise Place	Ridgewood	CA	93132

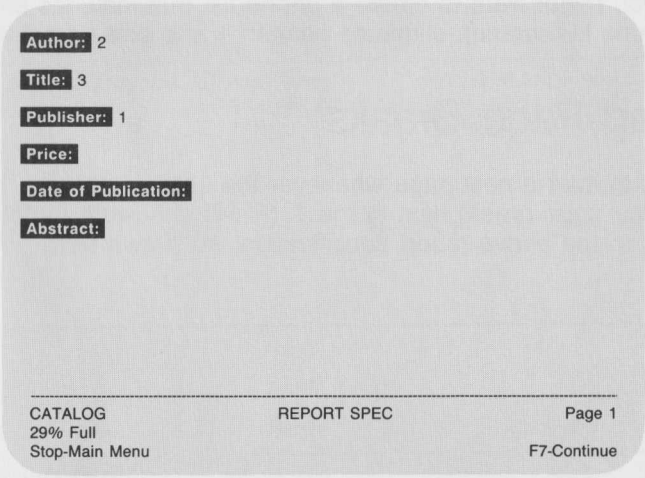
In this chapter you have learned how to print simple reports. In the next two chapters, you will learn how REPORT uses various sorting methods, column calculations, and derived columns to produce more complex reports.

4: sorting reports

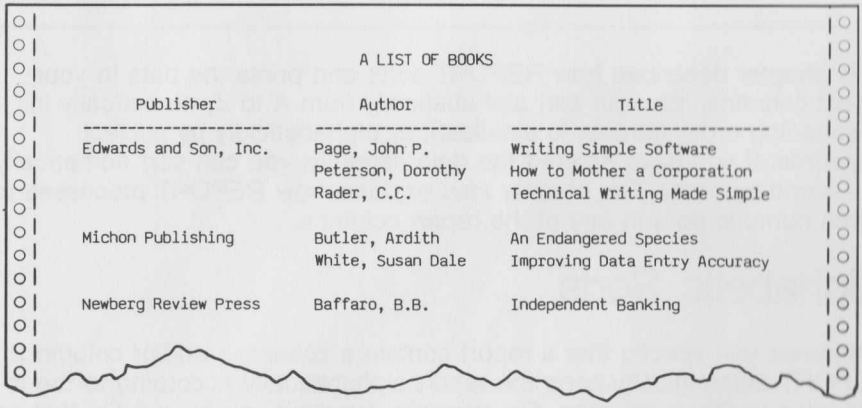
This chapter describes how REPORT sorts and prints the data in your report columns. You can sort alphabetically from A to Z, numerically in descending order (largest to smallest), or alphabetically by subject keywords. If you have entered the data carefully, you can sort numerically in ascending order. The chapter also explains how REPORT processes and prints numeric data in any of the report columns.

Alphabetic Sorts

Whenever you specify that a report contain a column 1 and/or column 2, REPORT automatically sorts the report alphabetically according to the information in these columns. For example, suppose you have a file that contains abstracts of recent publications. You could prepare a report that shows publisher, author, and title for each of these publications by using this report specification:



Since REPORT sorts the information in the report according to columns 1 and 2, the publications report looks like this:



A LIST OF BOOKS

Publisher	Author	Title
Edwards and Son, Inc.	Page, John P.	Writing Simple Software
	Peterson, Dorothy	How to Mother a Corporation
	Rader, C.C.	Technical Writing Made Simple
Michon Publishing	Butler, Ardith	An Endangered Species
	White, Susan Dale	Improving Data Entry Accuracy
Newberg Review Press	Baffaro, B.B.	Independent Banking

As you can see from this report, when the information in column 1 is the same for more than one form, REPORT only prints one entry in column 1. If you want REPORT to repeat the same information on another row, (for example, you might want to create a phone list that includes several people with the same last name), eliminate column 1 and sort on column 2.

Inserting Page Breaks

If you want to start a new page whenever the entry in column 1 changes, enter a P (for page break) next to the 1. (P will only work in column 1.) By adding a P to the above report specification, as shown here,

Author: 2

Title: 3

Publisher: 1P

Price:

Date of Publication:

Abstract:

CATALOG REPORT SPEC Page 1
29% Full
Stop-Main Menu F7-Continue

you can produce the same report, but with each publisher's list on a separate page:

A LIST OF BOOKS

Publisher	Author	Title
Edwards and Son, Inc.	Page, John P.	Writing Simple Software
	Peterson, Dorothy	How to Mother a Corporation
	Rader, C.C.	Technical Writing Made Simple

Page 1

A LIST OF BOOKS

Publisher	Author	Title
Michon Publishing	Butler, Ardith	An Endangered Species
	White, Susan Dale	Improving Data Entry Accuracy

Page 2

Numeric Sorts

If you choose to have REPORT treat a column of numbers numerically, you put a letter N next to the column number (any column) on the report spec form. If you put an N in column 1 or 2, REPORT not only treats the numbers in that column numerically (see rules below), but sorts them into descending order. When printing numeric columns, REPORT uses the following rules:

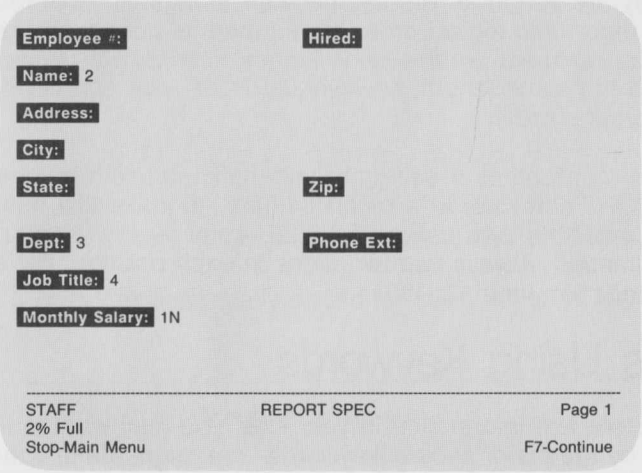
- It ignores all characters (including spaces) other than –, . , 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Be sure to use the number 1, not lowercase l, and 0 (zero), not the letter o.
- When printing, it inserts commas where necessary.
- A minus sign (–) before the first digit or after the last gives the number a negative value.
- If there are multiple decimal points, it ignores all but the first.
- It adjusts all entries in a column to the highest number of decimal places found in that column.

The following examples show how you might fill in the same item on several forms in a file, and how REPORT would list the information from those same forms in a numeric column:

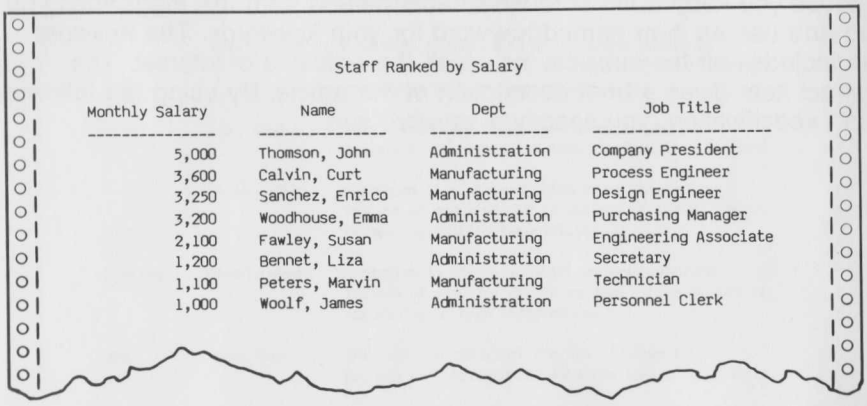
File Item	Numeric Column	Explanation
1.37 dollars	1.37	it ignores DOLLARS. This item has the largest number of decimal places. All other entries are adjusted to it.
112.5	112.50	it adds 1 decimal place.
$1000	1,000.00	it ignores the $ and adds the comma and 2 decimal places.

The numbers are not sorted in this example; however, if they appeared in column 1 or column 2, they would be sorted in descending order.

To illustrate sorting numeric data, let's print a report that lists the employees in the STAFF file in order by the amount of their salary. Select Print a Report from the Main Menu, and press F7 when the retrieve spec form is on the screen. At the print options form, type the title **Staff Ranked by Salary** and press F7. Then fill out the report spec as shown here:



Press F7 to prepare and print the following report:



Staff Ranked by Salary

Monthly Salary	Name	Dept	Job Title
5,000	Thomson, John	Administration	Company President
3,600	Calvin, Curt	Manufacturing	Process Engineer
3,250	Sanchez, Enrico	Manufacturing	Design Engineer
3,200	Woodhouse, Emma	Administration	Purchasing Manager
2,100	Fawley, Susan	Manufacturing	Engineering Associate
1,200	Bennet, Liza	Administration	Secretary
1,100	Peters, Marvin	Manufacturing	Technician
1,000	Woolf, James	Administration	Personnel Clerk

Alphabetic Sorts When the Item Contains Numbers

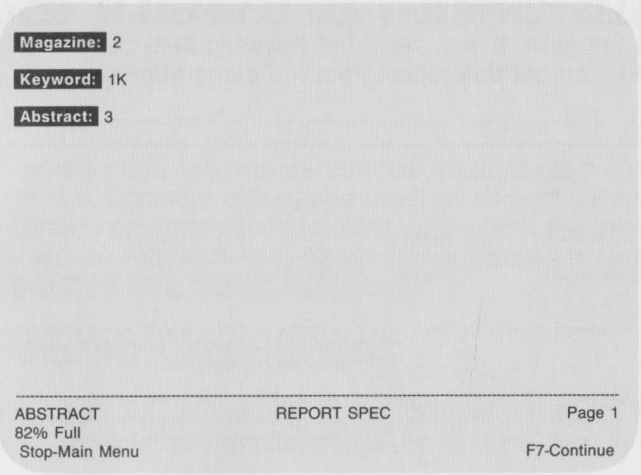
When REPORT is sorting an item alphabetically and that item contains numbers, REPORT automatically treats these numbers non-numerically. The numbers are printed in the report exactly as they are entered in the file, and they are sorted as simple character strings. For this reason, sorting the report into logical order by numbers is not usually feasible unless all the numbers are the same length, such as zip codes. If the numbers are the same length, however, REPORT can sort them into correct ascending order.

One frequent application of using an alphabetic sort with numbers is having REPORT sort rows in a report by date. To make this possible, when you initially enter the data using PFS:FILE, enter year, month, and day in the form yy/mm/dd. Always use two digits in each position. For example, 84/06/12 stands for June 12, 1984.

Reports Using Keywords

When you store text information in your files, you may want to identify such information by means of subject keywords. You might identify the same form by several different keywords if it is of interest for several different reasons. When you print a report using these keywords, the information from each form is printed once for each identified keyword.

Suppose you keep a file of technical information from the magazines you read and use an item named Keyword for your keywords. The Keyword item includes all the subjects for which the article is of interest. The Abstract item gives a brief description of the article. By using the following report specification, you specify a keyword sort:



The result is a report alphabetically sorted for every different keyword entered in your file.

KEYWORD SORT OF ABSTRACTS

Keywords	Magazine	Abstract
ECL	Data News	This article describes the use of a new ECL process to fabricate 16K RAMs for less than $4 each.
Failure	Elec Times	An unsuspected cause of RAM failure has been traced. People have found that gamma radiation causes random temporary bit faults.
	Weekly News	A problem is discussed which causes premature failure of memories due to warpage of the PC boards, especially at high temperatures.
Memory	Data News	This article describes the use of a new ECL process to fabricate 16K RAMs for less than $4 each.
	Weekly News	A problem is discussed which causes premature failure of memories due to warpage of the PC boards, especially at high temperatures.
PCboards	Weekly News	A problem is discussed which causes premature failure of memories due to warpage of the PC boards, especially at high temperatures.
RAMs	Data News	This article describes the use of a new ECL process to fabricate 16K RAMs for less than $4 each.
	Elec Times	An unsuspected cause of RAM failure has been traced. People have found that gamma radiation causes random temporary bit faults.

As you can see, REPORT prints each abstract once for each keyword entered on the form. If you make the Keyword item column 1 but omit the K command, you get this report from the same information:

A NORMAL REPORT

Keywords	Magazine	Abstract
ECL Memory RAMs	Data News	This article describes the use of a new ECL process to fabricate 16K RAMs for less than $4 each.
Failure Memory PCboards	Weekly News	A problem is discussed which causes premature failure of memories due to warpage of the PC boards, especially at high temperatures.
Failure RAMs	Elec Times	An unsuspected cause of RAM failure has been traced. People have found that gamma radiation causes random temporary bit faults.

To identify text using subject keywords, create an item on your file form to contain your keywords. When you enter more than one keyword into the form, separate them from each other with a space (Smith Jones Brown). If you have a keyword that is really more than one word, either use an underscore between the words (Personal_Computers) or do not space between them (PersonalComputers). (When sorting on keywords, REPORT only looks at the first 15 characters.)

Note that processing a keyword report can be a fairly time-consuming task, depending on the complexity of your form and the number of keywords entered for each form.

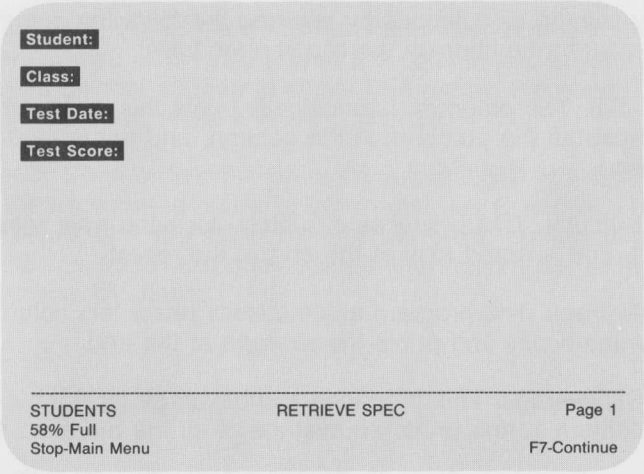
5: performing calculations

This chapter explains how you can perform calculations on the columns in your reports, print a summary report, and produce *derived* columns—columns calculated from information in other columns of the report. It also shows how to use an item in the file for sorting or calculation purposes, but not print that item as a column in the report.

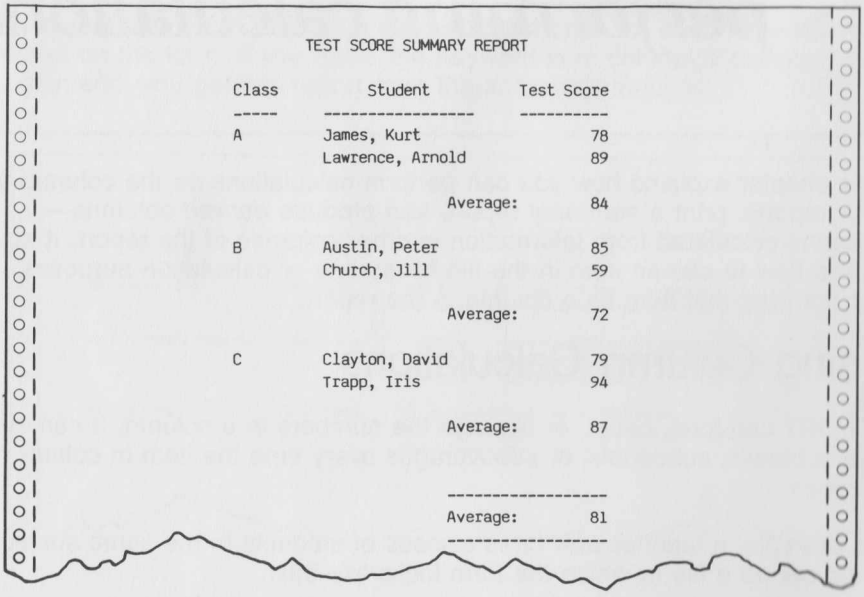
Using Column Calculations

REPORT can total, count, or average the numbers in a column. It can also give subtotals, subcounts, or subaverages every time the item in column 1 changes.

For example, a teacher with three classes of students in the same subject could set up a file in which the form looks like this:



When all these students took the same test, the teacher could get the average score for each class and the average score for all the students. Such a report would look like this:



TEST SCORE SUMMARY REPORT

Class	Student	Test Score
A	James, Kurt	78
	Lawrence, Arnold	89
	Average:	84
B	Austin, Peter	85
	Church, Jill	59
	Average:	72
C	Clayton, David	79
	Trapp, Iris	94
	Average:	87
	Average:	81

You specify column calculations by entering the following commands beside the column number on the report spec form:

T — Total. The program automatically treats this item numerically, adds all the numbers in the column, and prints the total at the end.

ST — Subtotal. This produces a subtotal for each new item in column 1, and a grand total at the end of the report.

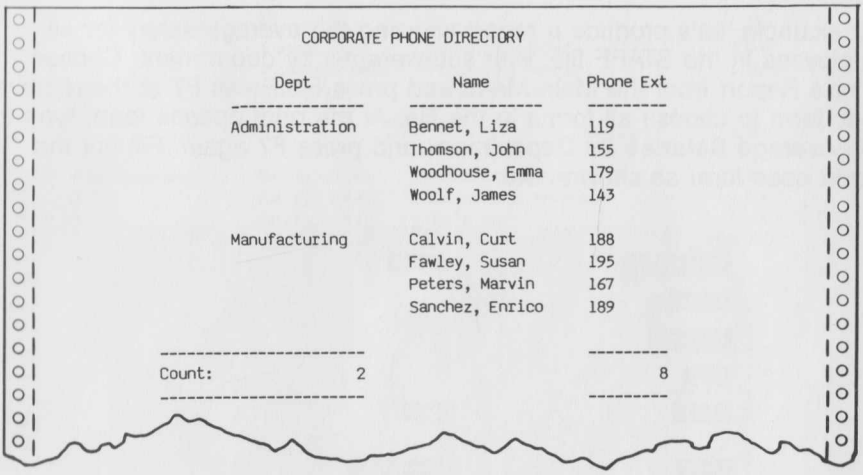
A — Average. The program automatically treats this column numerically and prints the average at the end.

SA — Subaverage. This produces a subaverage for each new item in column 1, and prints an average of all the numbers at the end.

C — Count. This counts the number of entries in a column. (It does not consider their value.)

SC — Subcount. This gives a subcount for each new item in column 1, and a complete count at the end.

The count and subcount commands count the number of items actually printed in a column. For example, look at the following phone directory prepared from the STAFF file:



CORPORATE PHONE DIRECTORY

Dept	Name	Phone Ext
Administration	Bennet, Liza	119
	Thomson, John	155
	Woodhouse, Emma	179
	Woolf, James	143
Manufacturing	Calvin, Curt	188
	Fawley, Susan	195
	Peters, Marvin	167
	Sanchez, Enrico	189
Count:	2	8

Only two items were counted in the Dept column because each department name was only printed once. The Phone Ext column has an entry for every line so the count for that column is eight. This report, therefore, tells you that you have two departments and eight phones.

When you use T, ST, A or SA, the program automatically assumes that the information in the column is numeric. When you use C and SC, however, you must also enter N if you want the column treated numerically, since C and SC can also be used with non-numeric information. For example, compare these two specifications:

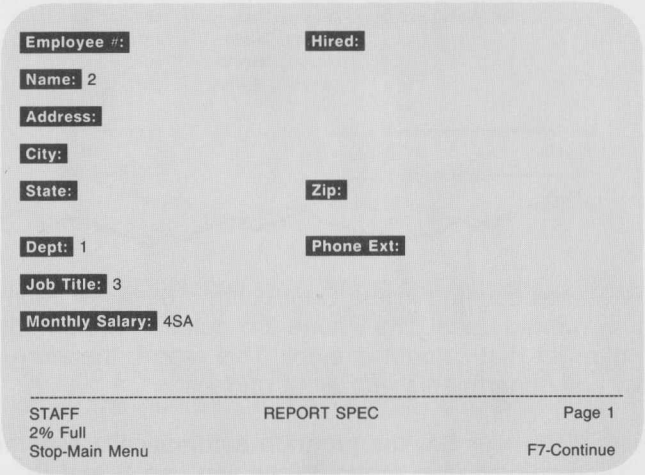
PRICE: 3C PRICE: 3CN

and then compare their results:

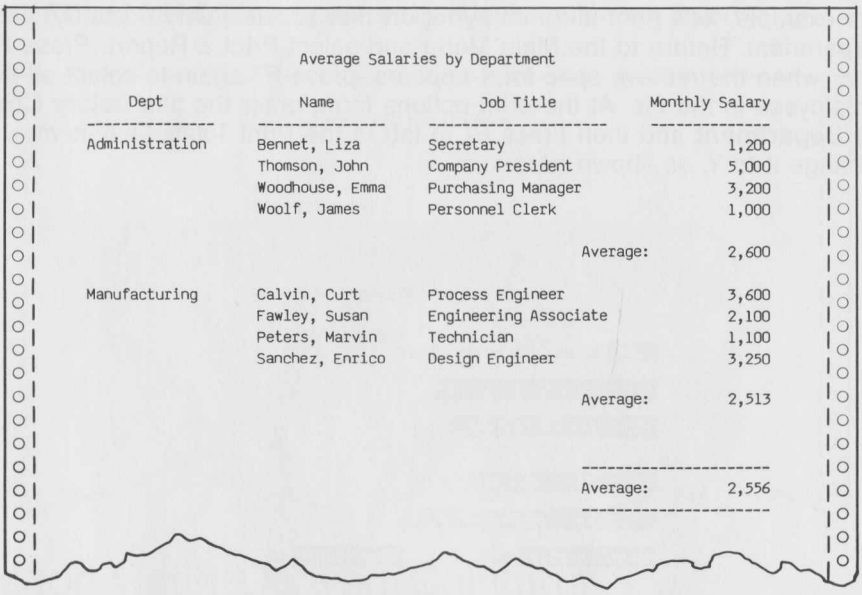
PRICE	PRICE
$100	100.00
4 DOLLARS	4.00
3.99	3.99
COUNT: 3	COUNT: 3

You can have REPORT perform more than one calculation in the same column; i.e., you can have it total, average, and count the same column. When entering multiple commands for an item, you can enter them in any order.

For example, let's produce a report showing the average salary for all employees in the STAFF file, with subaverages by department. Choose Print a Report from the Main Menu and press F7. Press F7 at the retrieve spec form to choose all forms in the file. At the print options form, type the title **Average Salaries by Department** and press F7 again. Fill out the report spec form as shown here:



The entry 4SA specifies that you want monthly salaries in column 4, with the average and subaverages calculated and printed. Press F7, and the following report is printed:



Average Salaries by Department

Dept	Name	Job Title	Monthly Salary
Administration	Bennet, Liza	Secretary	1,200
	Thomson, John	Company President	5,000
	Woodhouse, Emma	Purchasing Manager	3,200
	Woolf, James	Personnel Clerk	1,000
		Average:	2,600
Manufacturing	Calvin, Curt	Process Engineer	3,600
	Fawley, Susan	Engineering Associate	2,100
	Peters, Marvin	Technician	1,100
	Sanchez, Enrico	Design Engineer	3,250
		Average:	2,513
		Average:	2,556

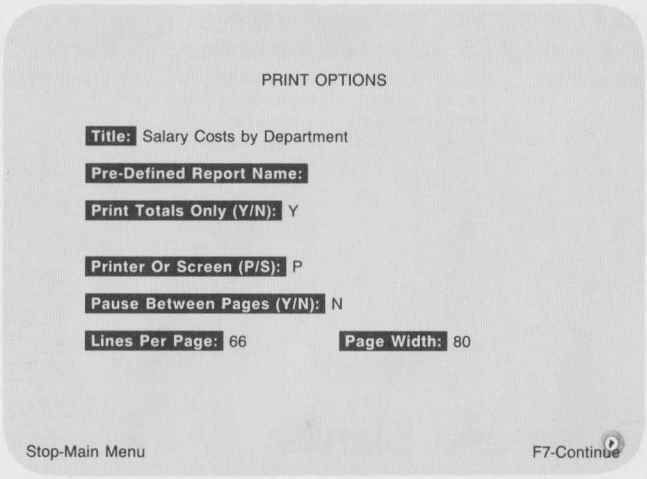
Using Zeros and Blanks

When you plan to use the calculation commands, think carefully about the difference between a 0 (zero) and a blank in your file. If you are a teacher computing test scores, the difference between a score of zero and no score is very significant when computing averages. Be especially careful about using zeros when using average or count. An item that contains no information is not included in the calculation, but an item that contains a zero is included. For example, the average of 4 and 2 is 3; however, the average of 4, 2, and 0 is 2.

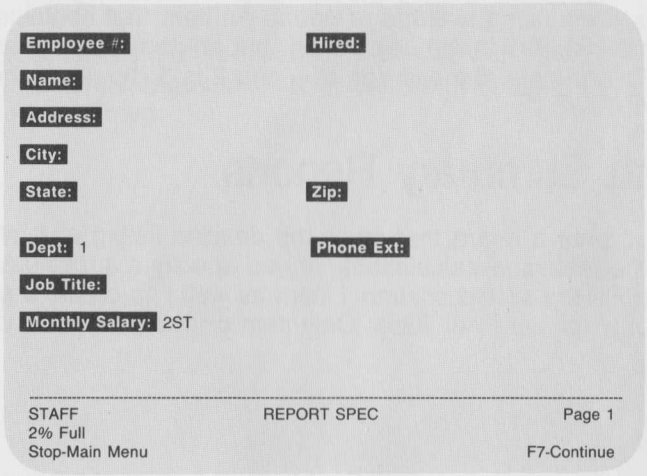
Creating Summary Reports

You can also print a report that omits the detailed listing of forms and prints just the results of calculations. (If you specify a subcalculation, REPORT prints the sorted column 1 item as well.) To create a summary report, enter Y for the Print Totals Only item on the print options form.

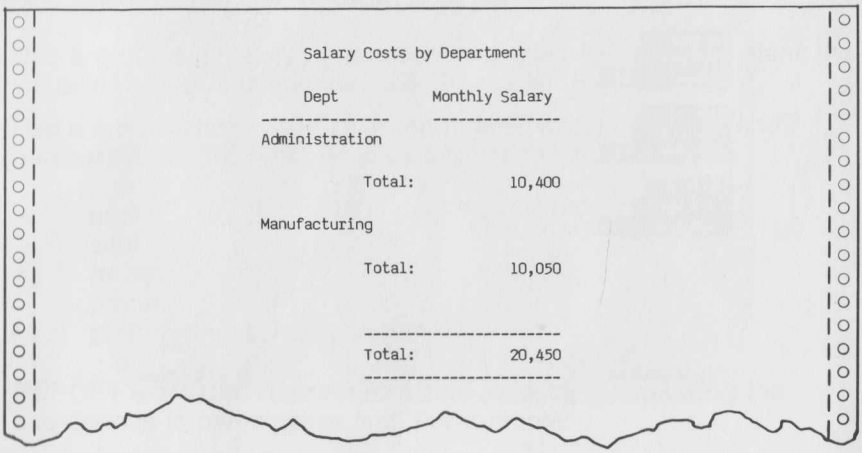
For example, let's print a summary report that shows salary costs by department. Return to the Main Menu and select Print a Report. Press F7 and, when the retrieve spec form appears, press F7 again to select all the employees in the file. At the print options form, enter the title **Salary Costs by Department** and then press F1 to tab to the Print Totals Only item. Change it to **Y**, as shown here:



At the next form, the report spec form, enter these specifications:



Press F7 and REPORT prepares and prints the summary report.



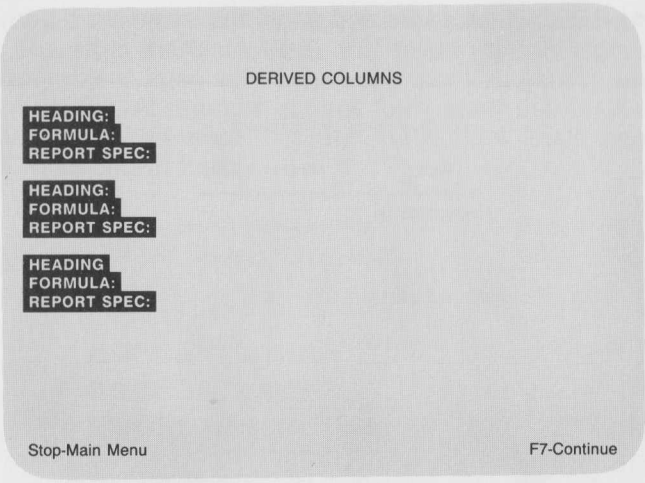
```
                Salary Costs by Department

     Dept                Monthly Salary
---------------          ---------------
Administration

                Total:          10,400

Manufacturing

                Total:          10,050


                                -----------------------
                Total:          20,450
                                -----------------------
```

Reports with Derived Columns

A derived column is calculated from information in other columns of a report, including other derived columns. It does not correspond to an item in a file, as do other report columns. You can have up to three derived columns in a report.

For example, suppose you want to calculate a 17% bonus for each employee in the STAFF file. You can prepare a report in which REPORT calculates 17% of the monthly salary of each employee from the Monthly Salary column and puts this amount in a new column called Bonus. Then, REPORT can add the amount of the bonus to the monthly salary and place this amount in another derived column called Total Pay.

You tell REPORT to produce a derived column by filling in a special form called the *derived columns form*. To reach this form, press F8 when the report spec form is on the screen. The derived columns form looks like this:



Since you can have a maximum of three derived columns in one report, there are three identical groups of items on the derived columns form. You fill in one of these groups for each derived column on a report. The items are:

Heading	Enter the heading you want printed at the top of the derived column. If you leave this blank, REPORT prints the formula as the heading.
Formula	Enter the formula for your derived column. See the section below, *Creating A Derived Column Formula.*
Report Spec	Enter the column number for your derived column and any column calculations you want. For example, entering 7T tells REPORT to print this column as column 7 and total it. You can even put a derived column in column 1, which means that REPORT sorts on the results of a derived column calculation. (This takes much longer to sort than a less complex report.)

If you want to return to the report spec form, press F8 again. This key enables you to switch between the two screens. When you have entered both the report specifications and the derived columns information, press F7 to have REPORT prepare and print your report.

Creating a Derived Column Formula

Use the following rules for creating a formula:

- Use a # to identify column numbers. For example, #1 – #5 means the value in column 1 minus the value in column 5.
- Use a combination of the following mathematical operators and numbers to tell REPORT what calculations to perform:

+	add
–	subtract
*	multiply
/	divide
( )	perform this calculation first.

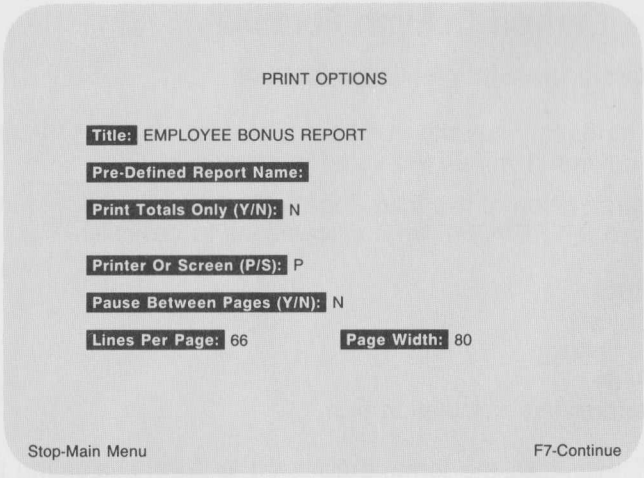
  REPORT evaluates the formula from left to right, evaluating the expressions in parentheses first. For example:

  #3 + 4 * #1 means add 4 to column 3 and multiply the result by column 1.

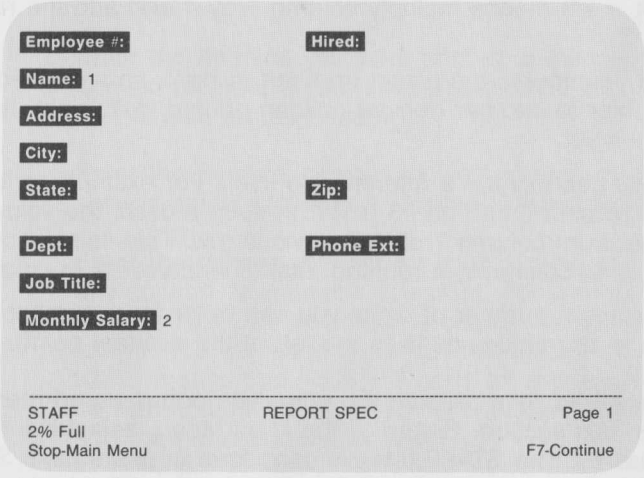
  #3 + (4 * #1) means multiply column 1 by 4 and add the result to column 3.
- REPORT computes the report from left to right, so a derived column cannot refer to another derived column printed to its right. Its value is not known yet.
- A formula can include a reference to itself. For example, a formula used in column 7 can be #3 + #7. In such a case, the value used for #7 is that from column 7 of the previous row. This calculation produces, in column 7, a running total of whatever is in column 3.
- The maximum number of digits you can enter for a number in the formula is 18 (maximum 14 to the left of the decimal point).

As an example, let's prepare the employee bonus report mentioned earlier in this section. Return to the Main Menu, select Print a Report, and press F7. The STAFF retrieve spec form appears next. Since everyone gets a bonus, leave it blank and press F7 again.

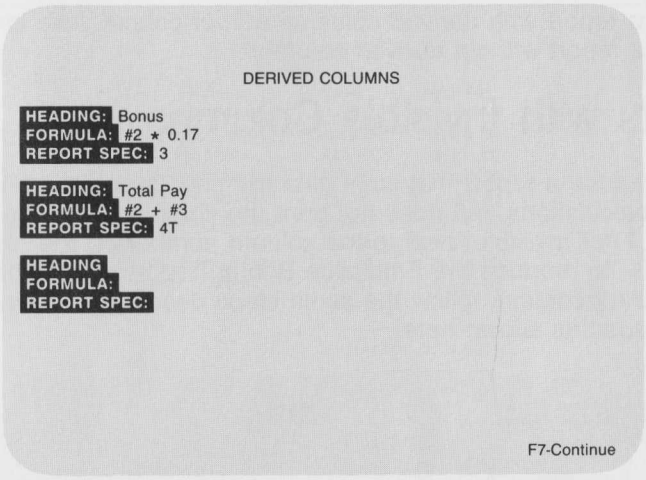
When the print options form appears, type in the title **EMPLOYEE BONUS REPORT** and leave the other default values. Your screen should look like the screen on the next page:



Press F7, and the report spec form appears. Enter a **1** in the Name item to make it the first column of the report and a **2** in the Monthly Salary item to make it the second column. Your screen should look like this:



Now you are ready to define the derived columns. Press F8 to bring up the derived columns form, and use the F1 key to move from item to item, filling it in as shown:



This specification produces a column 3 with the heading Bonus with a calculated value that is 17% of the salary amount in column 2. The second derived column has the heading Total Pay and adds the salary amount to the calculated bonus amount. It also specifies that column 4 is to be totaled at the end of the report.

Press F7, and REPORT prepares and prints your report. It looks like this:

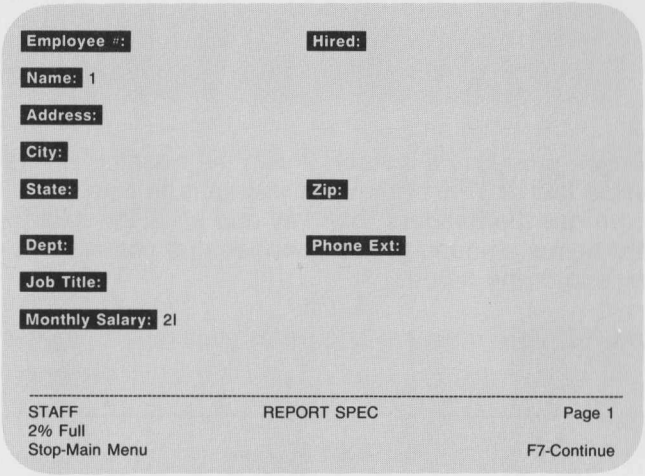
EMPLOYEE BONUS REPORT

Name	Monthly Salary	Bonus	Total Pay
Bennet, Liza	1,200	204.00	1,404.00
Calvin, Curt	3,600	612.00	4,212.00
Fawley, Susan	2,100	357.00	2,457.00
Peters, Marvin	1,100	187.00	1,287.00
Sanchez, Enrico	3,250	552.50	3,802.50
Thomson, John	5,000	850.00	5,850.00
Woodhouse, Emma	3,200	544.00	3,744.00
Woolf, James	1,000	170.00	1,170.00
		Total:	23,926.50

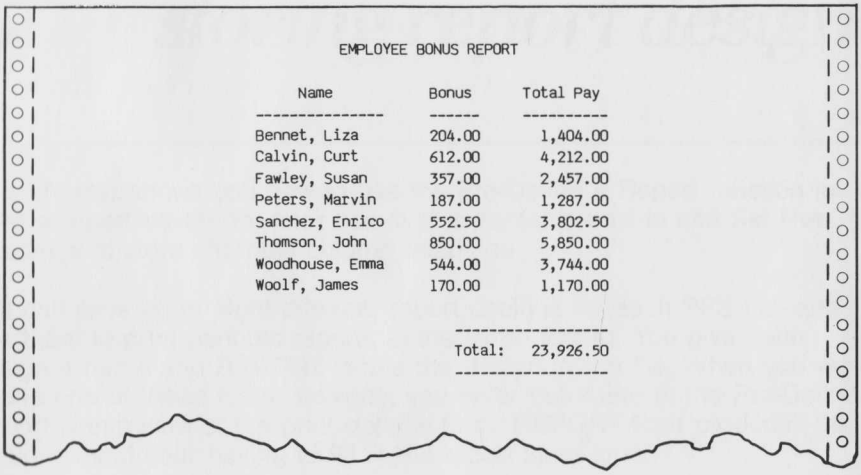
Producing a report with derived columns will, of course, take longer than producing a report without derived columns.

Reports with Invisible Columns

You can produce a report that uses data from items on your file form for sorting or calculations, but does not print the items as columns in the report. Put I (for invisible) next to the column number on the report spec. For example, to produce the Employee Bonus Report without printing the Monthly Salary column, follow the same steps described above but fill in the report spec as shown here:



Press F8 to bring up the derived columns form and fill in both formulas exactly as you did before. Then press F7, and REPORT prepares and prints your report. It now looks like this:



EMPLOYEE BONUS REPORT

Name	Bonus	Total Pay
Bennet, Liza	204.00	1,404.00
Calvin, Curt	612.00	4,212.00
Fawley, Susan	357.00	2,457.00
Peters, Marvin	187.00	1,287.00
Sanchez, Enrico	552.50	3,802.50
Thomson, John	850.00	5,850.00
Woodhouse, Emma	544.00	3,744.00
Woolf, James	170.00	1,170.00
Total:		23,926.50

6: storing report designs

This chapter shows you how to use the Pre-Define a Report function to store a report design for later use. It also explains how to use Set New Headings to store alternate column headings.

You can save up to eight different report designs for each PFS file, and use them to print periodic reports in the same format. You give each design a name and REPORT stores the design in the file. When you want to use one of these report designs, you enter the name in the Pre-Defined Report Name item of the print options form. REPORT then produces the report without your having to fill in the report spec form.

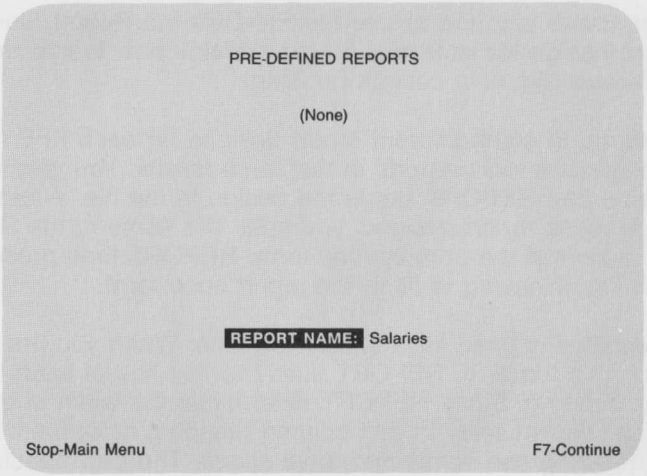
Set New Headings is used for a similar purpose. When you print a report without using this function, REPORT uses the first line of each item name as a column heading. Since REPORT determines the width of a column in a report by the widest entry in that column (heading or column entry), changing a heading can sometimes save space. The new headings are stored in the file, so the same headings are used whenever you print a report from the file.

Selecting Pre-Define a Report

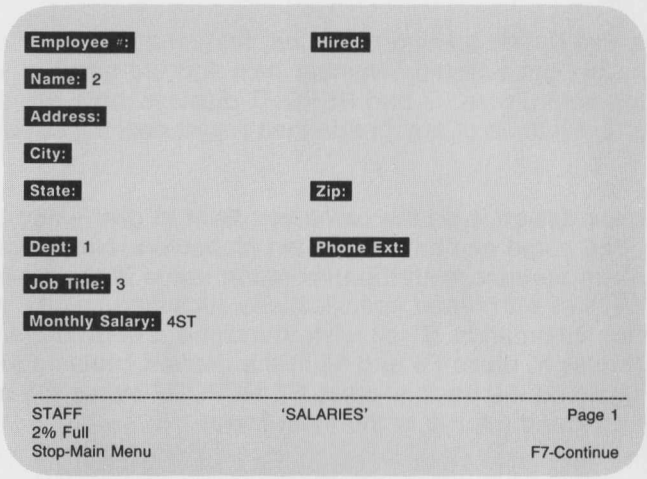
To select the Pre-Define a Report function, first return to the Main Menu. Then enter a **2** in the Selection Number item and the name of your file in the File Name item. Press F7 and REPORT displays, on a pre-defined reports form, the names of any pre-defined report designs already stored for the file.

To create a new design, type the name you want to give it into the Report Name item. The name can have up to ten characters. Next, a copy of the report spec form appears, with the new report name in the message area. You fill in this form with report specifications, including column numbers and calculation commands. If you wish to include a derived column in the stored report design, press F8 and fill in the derived columns form. When you have completed the design, press F7. REPORT stores the report design in the file and returns to the Main Menu.

Let's create and store a report design for the STAFF file that shows total salaries by department. Return to the Main Menu and select Pre-Define a Report. Press F7 and the pre-defined reports form for the STAFF file appears. Enter **Salaries** in the Report Name item, so that the form looks like this:



Press F7 and the report spec form from the file appears, with the word 'SALARIES' in the message area at the bottom of the form. Fill out the form as shown below:

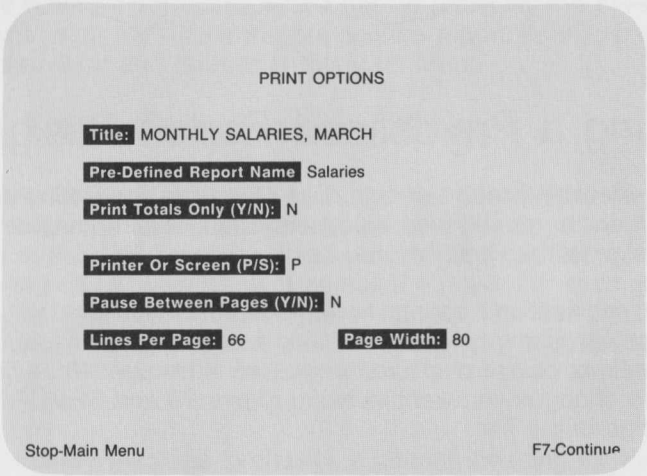


Press F7 to store the report design and return to the Main Menu.

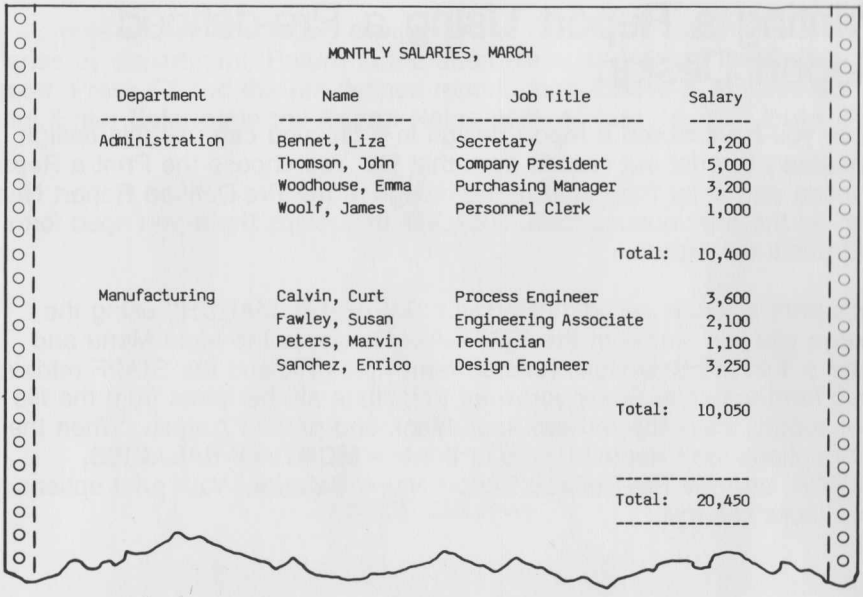
Printing a Report Using a Pre-defined Report Design

Once you have stored a report design in a file, you can use this design repeatedly to print out reports from that file. You choose the Print a Report function and enter the name of the design in the Pre-Defined Report Name item on the print options form. REPORT then skips the report spec form and prints the report.

Let's print a report called "MONTHLY SALARIES, MARCH" using the design you just stored in the STAFF file. Return to the Main Menu and enter a **1** in the Selection Number item. Press F7, and the STAFF retrieve spec form appears. Since you want to include all the forms from the file in your report, leave the retrieve spec blank and press F7 again. When the print options form appears, type in the title **MONTHLY SALARIES, MARCH**, and the Pre-Defined Report Name **Salaries**. Your print options form looks like this:



Press F7 and the program takes the pre-defined report design from your STAFF file and prepares the report using that design. It looks like the report on the next page:



MONTHLY SALARIES, MARCH

Department	Name	Job Title	Salary
Administration	Bennet, Liza	Secretary	1,200
	Thomson, John	Company President	5,000
	Woodhouse, Emma	Purchasing Manager	3,200
	Woolf, James	Personnel Clerk	1,000
		Total:	10,400
Manufacturing	Calvin, Curt	Process Engineer	3,600
	Fawley, Susan	Engineering Associate	2,100
	Peters, Marvin	Technician	1,100
	Sanchez, Enrico	Design Engineer	3,250
		Total:	10,050
		Total:	20,450

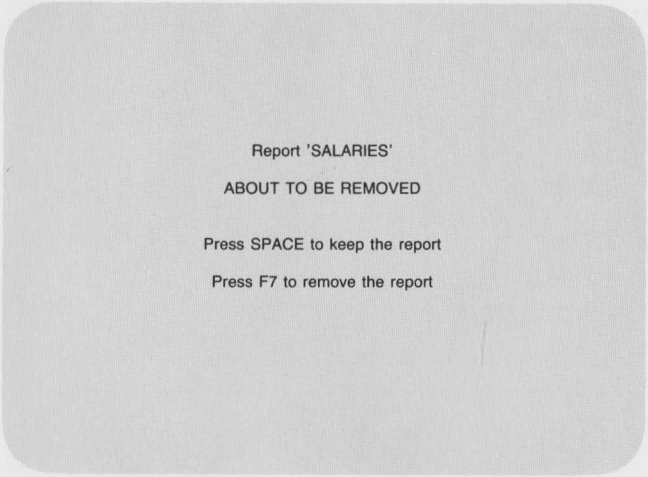
Modifying a Pre-defined Report Design

To modify an existing report design, first select the Pre-Define A Report function. When the pre-defined reports form appears, enter the name of the existing design in the Report Name item and press F7.

The report specifications appear on the screen for you to modify. You can add new specifications, type over existing ones, or press Clear to erase all the specifications on the displayed page and start over. When you have made all the changes you want to make, press F7 and REPORT stores the revised design in the file.

Removing a Pre-defined Report Design

To remove a pre-defined report design, first select the Pre-Define A Report function. When the pre-defined reports form appears, enter in the Report Name item the name of the report design that you want to remove from your file. Press F7 to continue. When the report specifications appear on the screen, press F6. The following warning appears, giving you a chance to change your mind:

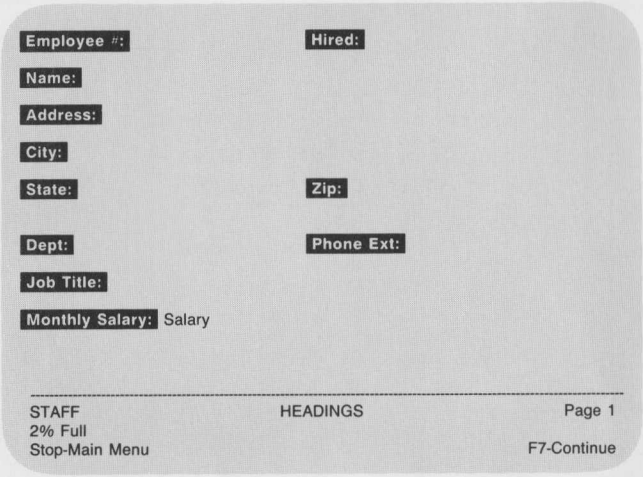


If you decide not to remove the design, you can press either Stop (to return to the Main Menu) or the space bar (to redisplay the pre-defined design). If you want to remove the pre-defined report design, press F7, and REPORT removes it and returns to the Main Menu.

Setting New Column Headings

When you print a report, REPORT uses the first line of each item name as a column heading, unless other (usually shorter) headings have previously been stored in the file. Changing a column heading can sometimes save space, allowing more columns to fit across the page. For example, suppose you have an item named Social Security Number. This item name is 22 characters long, but social security numbers are only 11 characters long. Thus, unless you shorten the heading, this column would be twice as wide as it needs to be to accommodate the numbers.

Let's use Set New Headings to change a column heading for the STAFF file. The Monthly Salary item generally contains only four characters, so let's shorten the heading to the word Salary. Return to the Main Menu and enter **3** in the Selection Number item. Press F7 to continue and a form from the STAFF file appears on the screen with the word "HEADINGS" in the message area at the bottom. Use F1 to tab to the Monthly Salary item and type **Salary** as shown on the next screen:



Press F7, and REPORT stores this changed heading in the STAFF file. REPORT will use this new heading from now on. For example, if you print a salary report it will look just like the Monthly Salaries, March report shown previously, only the Monthly Salary column will now be titled just Salary.

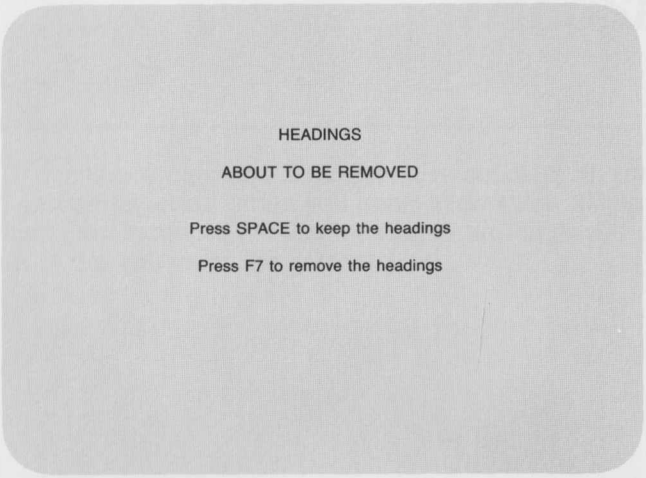
Modifying Headings

If you want to go back to the original item name as a column heading, or if you want to compress your column headings further, choose Set New Headings again. When the Headings form appears on the screen, you see the column headings previously stored for this file.

At this time, you can change headings by typing over them, add new ones by typing them in, erase headings by spacing over them, or press the Clear key to erase all the headings entered on the page. When the modified headings are correct, press F7 to store them in the file and return to the Main Menu.

Removing Headings

To remove all the new column headings stored in the file and revert to the item names, first select the Set New Headings function. When the filled-in headings form appears on the screen, press F6. The following warning screen appears to give you a chance to change your mind:

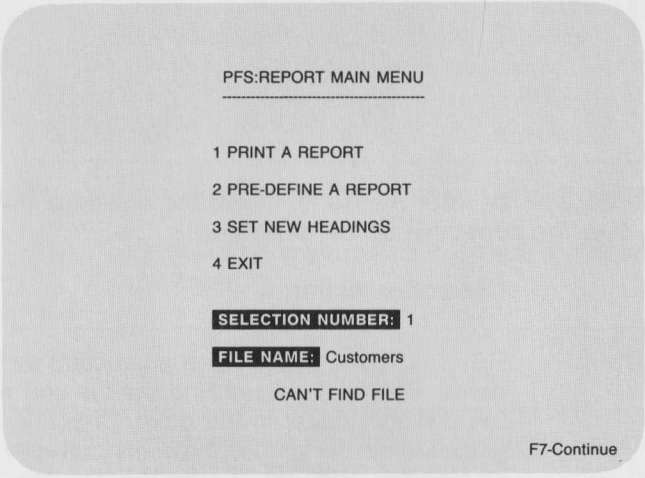


If you change your mind and decide not to remove the headings, you can press Stop (to return to the Main Menu), or press the space bar (to redisplay the headings form).

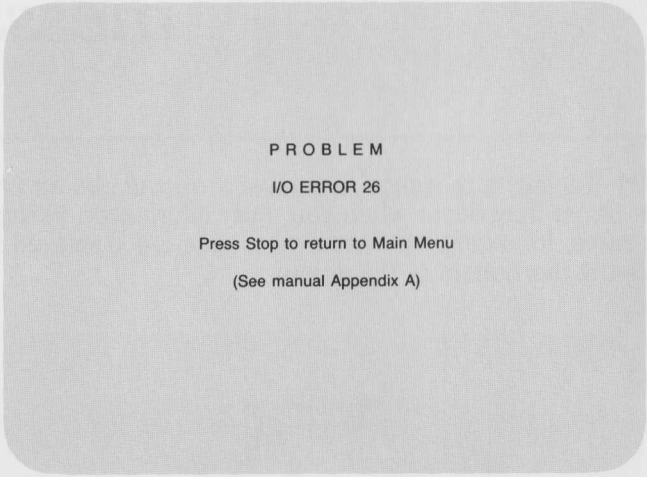
If you want to remove the new headings, press F7, and REPORT removes the new headings from the file and returns to the Main Menu.

a: messages

PFS:REPORT displays a message whenever it encounters an error condition. Certain errors may occur when you enter information (filling in the Main Menu items, for example). These messages are displayed in the message area at the bottom of the screen:



Other errors are the result of physical limitations or problems with certain elements of your computer system. These messages are displayed on a separate screen that looks like this:



When you encounter an error message, locate the message in the following list and take the corrective action described.

Message	Corrective Action
CAN'T FIND FILE	REPORT uses the first ten characters as the file name. REPORT cannot find the file you named on the diskette that is in the drive. Check to make sure you entered the name of the file correctly in the File Name item. Also make sure the diskette that contains the file is in the drive. The file name you entered is not the name of a file created by PFS:FILE. Enter the name of a PFS file and try again.
CAN'T FIND REPORT "xyz".	REPORT cannot find the pre-defined report named "xyz" in the PFS file. Make sure the report you requested is one of those listed on the pre-defined reports form.

Message	Corrective Action
DISK IS FULL	REPORT attempted to write some information on a diskette and found that there was no room left. If you have some unnecessary forms in the file, you can create some space by using PFS:FILE to remove them.
DISK IS WRITE-PROTECTED	REPORT cannot use diskettes that are write-protected. REPORT uses certain areas of the diskette to store retrieve and report specifications. Remove the write-protect tab. To protect the data that could now be overwritten, use BACKUP (see your PFS:FILE manual, Appendix C) to make a backup copy of your file.
DRIVE IS NOT READY	The disk drive door is open. Close the door. Or the drive may not be connected properly. Check the cable. You will also get this message if the diskette is unformatted. Format the diskette.
ERROR IN FORMULA	The formula for a derived column is incorrect due to one of the following reasons. The cursor is over the character causing the trouble. Correct the formula by typing over the error and try again. - an unrecognizable or out-of-sequence character - parentheses nested more than two deep - more than 14 digits to the left of the decimal or 4 to the right of the decimal in a number
INVALID SELECTION NUMBER	You entered a number for the Selection Number item of the Main Menu that REPORT doesn't recognize. Re-enter a number that is shown on the menu.

Message	Corrective Action
I/O ERROR	There is a physical problem with either the disk drive, the disk controller, or the diskette. Some possible causes are: ■ The diskette is inserted incorrectly. Remove the diskette and re-insert it properly. ■ The diskette is worn out. After 40-50 hours of use, the diskette may need replacing. Try using a different diskette. ■ The diskette is defective. DO NOT USE THIS DISKETTE AGAIN. Make a copy of your backup diskette and use that copy. If I/O error persists, take the disk drive to your dealer for testing.
MUST BE A PFS DATA FILE	The file name you entered is not the name of a file created by PFS:FILE. Make sure that you are using the correct name. Enter the name of a PFS file and try again.
PLEASE GIVE A NAME	You have left the Report Name item of the Pre-defined Reports screen blank. Enter the name you want to give to a new pre-defined report specification, or the name of an existing report specification that you want to modify or remove.
PRINTER IS NOT READY	REPORT cannot access the printer. Check to make sure your printer is plugged in, turned on, has paper, and the switch in the back is in position 4.
REPORT IS TOO WIDE	The report you specified will not fit in the page width. A frequent cause of this is that the item names are very long. Return to the Main Menu and use Set New Headings to make your column headings narrower. Or press F7 to have REPORT print out as much of the report as fits in the page width you specified.

Message	Corrective Action
SEARCH LIST IS TOO LONG	The retrieve specifications will not fit in REPORT's internal storage area. Specify fewer requests in the retrieve specifications.
YOU CAN PRE-DEFINE 8 REPORTS MAXIMUM	You attempted to create a pre-defined report when eight were already stored in your file. Delete an unwanted report design by using F6.
** (on the screen)	REPORT was unable to calculate the numeric value of this item due to one of the following reasons: *Overflow.* The value to be displayed exceeded 14 digits to the left of the decimal either in its original form in the file, or during processing. Use smaller numbers. *Incorrect formula.* An attempt was made to divide by zero in a formula. Or, a derived column formula referred to another derived column printed to its right. Since they are evaluated from left to right, its value is not yet known. Or, a derived column formula referred to a column that did not exist. Check that the column numbers were entered correctly in the report spec form. Correct the formula.

b: example file

This manual uses a series of examples based on a PFS file named STAFF. When you receive your PFS:REPORT package, you will find this file stored on the REPORT program diskette. You need to use the BACKUP program to copy it to another diskette. There is a copy of the BACKUP program on both your PFS:FILE and your PFS:REPORT program diskettes. See Appendix C of your PFS:FILE manual if you do not know how to use BACKUP. If you accidentally destroy the STAFF file before copying it, you can create another like it by following these instructions:

First, load PFS:FILE into your computer. When the Main Menu appears, select the Design File function, enter STAFF as the file name, and press F7. Select the Create File option and press F7 again. Then, type in the following design:

```
Employee #:                    Hired:

Name:

Address:

City:

State:                         Zip:

Dept:                          Phone Ext:

Job Title:

Monthly Salary:

--------------------------------------------------------------------------------
STAFF                          DESIGN                          Page 1
0% Full
Stop-Main Menu                                          F7-Continue
```

When you have completed the form design, press F7 to continue. You should see the Main Menu on the screen. Select the Add function and enter information for the eight employees listed below:

Employee #: M8877
Name: Calvin, Curt
Address: 254 Greentree Lane
City: Woodville
State: CA
Hired: 74/11/05
Zip: 93137

Dept: Manufacturing
Job Title: Process Engineer
Monthly Salary: $3600
Phone Ext: 188

Employee #: M3245
Name: Sanchez, Enrico
Address: 7831 Parkside Place
City: Ridgewood
State: CA
Hired: 78/06/22
Zip: 93132

Dept: Manufacturing
Job Title: Design Engineer
Monthly Salary: $3,250
Phone Ext: 189

Employee #: A3476
Name: Thomson, John
Address: 869 Valley View Road
City: Ridgewood
State: CA
Hired: 80/10/21
Zip: 93132

Dept: Admin
Job Title: Company President
Monthly Salary: $5,000
Phone Ext: 155

Employee #: A0765
Name: Bennet, Liza
Address: 754 Granville Place
City: Ridgewood
State: CA
Hired: 76/09/21
Zip: 93132

Dept: Admin
Job Title: Secretary
Monthly Salary: 1,200
Phone Ext: 119

Employee #: M0934
Name: Fawley, Susan
Address: 5634 Ridgewood Way
City: Woodville
State: CA

Hired: 77/09/30

Zip: 93137

Dept: Manufacturing
Job Title: Engineering Associate
Monthly Salary: 2100

Phone Ext: 195

Employee #: M5524
Name: Peters, Marvin
Address: 3224 Valley View Road
City: Ridgewood
State: CA

Hired: 81/04/27

Zip: 93132

Dept: Manufacturing
Job Title: Technician
Monthly Salary: $1100

Phone Ext: 167

Employee #: A1265
Name: Woodhouse, Emma
Address: 425 Oakview Way
City: Ridgewood
State: CA

Hired: 76/04/23

Zip: 93132

Dept: Admin
Job Title: Purchasing Manager
Monthly Salary: $3,200

Phone Ext: 179

Employee #: A0139
Name: Woolf, James
Address: 9732 Sunrise Place
City: Ridgewood
State: CA

Hired: 72/09/16

Zip: 93132

Dept: Admin
Job Title: Personnel Clerk
Monthly Salary: 1,000

Phone Ext: 143

a quick guide to pfs:report

Cursor Control Keys

CRSR ⇒	Moves the cursor to the right one space.
CRSR ⇒	(Shift) Moves the cursor to the left one space.
CRSR ⇓	Moves the cursor down one line.
CRSR ⇓	(Shift) Moves the cursor up one line
Return	Moves the cursor to the beginning of the next line.
F1	Moves the cursor forward to the next item on the form or menu.
F3	Moves the cursor back to the previous item on the form or menu.
Home	Moves the cursor to the first item of a form or menu; if there are no items, moves the cursor to the top left-hand corner of the screen.
Del	Moves the cursor one space to the left, deleting the character in that position.

Special Function Keys

F7	Begins or continues the specified function.
F2	Displays the next page of the form.
F4	Displays the previous page of the form.
F6	Removes the currently displayed pre-defined report specification or new column headings.
Clear	Erases all entries from the currently displayed page.
F8	Switches between the report spec form and the derived columns form.
Inst	Switches between normal and insert mode. When in insert mode, a typed character is inserted at the cursor location, moving other characters on the line one location to the right to make room.
←	Deletes the character at the cursor location.
Stop	Returns to the REPORT Main Menu.

Printing a Report

Steps

1. Insert the PFS file in a drive.
2. Select Print a Report function and enter the file name.
3. Fill out the retrieve spec form.
4. Type in the print options.
5. Fill out the report spec form. To include a derived column, press F8 and fill in the derived columns form.
6. Press F7 to prepare and print the report.

Retrieve Specifications

- leave blank to print all forms
- abc finds **abc** only (upper or lower case)
- ..xyz finds any entry ending **xyz**
- abc.. finds any entry starting **abc**
- ..pqr.. finds any entry containing **pqr**
- .. finds any nonblank entry
- ?and finds any four-letter word ending with **and** (band, land, etc.)
- <10 finds any number less than 10
- >99 finds any number greater than 99
- =33 finds the number 33
- =1..5 finds any number 1 through 5
- /=25 finds any number not equal to 25
- /A.. finds any entry not starting with A
- /.. finds all blank entries

Print Options

- type the title you want at the top of each page
- if you are using a pre-defined report design, enter its name in Pre-Defined Report Name.
- to print only the results of calculations, not the individual rows, type Y for Print Totals Only.
- choose the output destination; P for printer or S for screen.
- if you are using single sheet paper, enter Y for Pause Between Pages.
- enter the lines per page (66 for a standard 11-inch page, for most printers).
- choose the page width (80 for an 8½ by 11 page when printing in regular print mode; 132 if your printer can print in compressed mode on the same size page).

Report Specifications

- nT totals all numbers in column n.
- nST subtotals column n whenever the item in column 1 changes, and gives a grand total at the end.
- nA averages all numbers in column n.
- nSA subaverages column n whenever the item in column 1 changes, and gives the overall average at the end.
- nC counts all items in column n.
- nSC subcounts column n whenever the item in column 1 changes, and gives the complete count at the end.
- nI considers this item a column for calculation or sorting purposes, but does not print it in the report.
- 1K sorts column 1 by keyword (column 1 only).
- 1P begins a new page whenever the item in column 1 changes (column 1 only).
- nN treats the column numerically (lines up decimals, ignores non-numeric characters, etc.).

Derived Columns

- press F8 when at the report spec form.
- type the heading you want to appear at the top of the new column.
- type the formula that will be used to calculate the values in the derived column.
- allowed operators are:
  - \+ add
  - – subtract
  - * multiply
  - / divide
  - ( ) evaluate terms in parentheses before other terms.
  - #n use the value in column n.
- enter the column number for the derived column in the Report Spec item, and any commands to produce calculations on the new column.

Pre-Defining a Report

Steps

1. Select Pre-Define a Report function.
2. Enter a name (up to 10 characters).
3. Fill out the report spec form. If desired, press F8 and define one or more derived columns.
4. To use the pre-defined report, follow the steps for printing a report. On the print options form, enter the name of the pre-defined report design in the Pre-Defined Report Name item. REPORT skips the report spec form and prints the report according to the stored design.

Setting New Headings

Steps

1. Select Set New Headings function.
2. Enter the new heading for as many items as you wish. Press F7.

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